

CLAIMS

What is claimed is:

1. An apparatus, comprising:

a switch adapted to couple each of at least two receiver chains to one of at least two of a plurality of antennas, said switch being further adapted to couple said receiver chains to said plurality of antennas such that each receiver chain is coupled to a different one of said plurality of antennas, said switch comprising at least two sub-switches, each sub-switch adapted to be coupled to a different one of said at least two receiver chains.

2. The apparatus according to Claim 1, wherein the one of said plurality of antennas to be coupled by said switch to each of said receiver chains is to be selected according to a predetermined criterion.

3. The apparatus according to Claim 1, wherein outputs of said receiver chains are to be combined to form a combined output.

4. The apparatus according to Claim 1, wherein each sub-switch is adapted to be coupled to at least two of said plurality of antennas.

5. The apparatus according to Claim 4, wherein at least one sub-switch is adapted to be coupled to all of said plurality of antennas.

6. The apparatus according to Claim 4, wherein at least one sub-switch is adapted to be coupled to all except one of said plurality of antennas.
7. The apparatus according to Claim 4, wherein each sub-switch is adapted to be coupled to two of said plurality of antennas.
8. The apparatus according to Claim 1, further comprising:
a second switch adapted to be coupled to a power amplifier and to a receiver chain and to one of said sub-switches such that said one of said sub-switches is coupled to said receiver chain and said power amplifier through said second switch.
9. The apparatus according to Claim 8, wherein said one of said sub-switches is adapted to be coupled to all of said plurality of antennas.
10. The apparatus according to Claim 1, wherein said switch further comprises a sub-switch adapted to be coupled to a power amplifier and to all of said plurality of antennas, said sub-switch adapted to couple said power amplifier to a selected one of said plurality of antennas.
11. A system comprising:
a plurality of antennas;
at least two receiver chains; and

a switch adapted to couple each of said at least two receiver chains to one of at least two of said plurality of antennas, said switch being further adapted to couple said receiver chains to said plurality of antennas such that each receiver chain is coupled to a different one of said plurality of antennas, said switch comprising at least two sub-switches, each sub-switch adapted to be coupled to a different one of said at least two receiver chains.

12. The system according to Claim 11, further comprising:

a combiner adapted to receive signals from said at least two receiver chains and to combine said signals into a combined signal.

13. The system according to Claim 12, further comprising:

a demodulator/decoder adapted to receive said combined signal from said combiner and to perform at least one of demodulation and decoding of said combined signal.

14. The system according to Claim 11, wherein the one of said plurality of antennas to be coupled by said switch to each of said receiver chains is to be selected according to a predetermined criterion.

15. The system according to Claim 11, wherein each sub-switch is adapted to be coupled to at least two of said plurality of antennas.

16. The system according to Claim 11, further comprising:

a second switch adapted to be coupled to a power amplifier and to a receiver chain and to one of said sub-switches such that said one of said sub-switches is coupled to said receiver chain and said power amplifier through said second switch.

17. The system according to Claim 11, wherein said switch further comprises a sub-switch coupled to a power amplifier and adapted to be coupled to all of said plurality of antennas, said sub-switch adapted to couple said power amplifier to a selected one of said plurality of antennas.

18. The system according to Claim 11, further comprising:

a second transceiver adapted to communicate with a first transceiver, said first transceiver comprising said plurality of antennas, said at least two receiver chains, and said switch, said second transceiver lacking antenna diversity, wherein said first transceiver is adapted to transmit a signal to said second transceiver at a data rate that compensates for the second transceiver's lack of antenna diversity.

19. A method, comprising:

determining a subset of antennas out of a plurality of antennas, using a predetermined criterion; and

switching signals from said subset of antennas to a corresponding number of receiver chains, each receiver chain receiving a different one of said signals from said

subset of best antennas, wherein each receiver chain may only receive signals from a predetermined subset of said plurality of antennas.

20. The method according to Claim 19, further comprising:

combining signals processed by said receiver chains according to a diversity combining technique.

21. The method according to Claim 19, wherein each receiver chain may receive signals from any one of said plurality of antennas.

22. The method according to Claim 19, wherein each receiver chain may receive signals from a subset of said plurality antennas consisting of all except one of said plurality of antennas.

23. The method according to Claim 19, further comprising:

switching a transmit power amplifier to be connected to any one of said plurality of antennas.

24. The method according to Claim 23, further comprising:

adjusting a data rate of a signal transmitted by said power amplifier to compensate for a lack of diversity at a remote receiver.

25. A machine-readable medium that provides instructions, which when executed by a computing platform, cause said computing platform to perform operations comprising a method of:

determining a subset of antennas out of a plurality of antennas, using a predetermined criterion; and

switching signals from said subset of antennas to a corresponding number of receiver chains, each receiver chain receiving a different one of said signals from said subset of best antennas, wherein each receiver chain may only receive signals from a predetermined subset of said plurality of antennas.

26. The machine-readable medium according to Claim 25, further comprising instructions, which when executed by a computing platform, cause said computing platform to perform operations further comprising:

combining signals processed by said receiver chains according to a diversity combining technique.

27. The machine-readable medium according to Claim 25, wherein each receiver chain may receive signals from any one of said plurality of antennas.

28. The machine-readable medium according to Claim 25, wherein each receiver chain may receive signals from a subset of said plurality antennas consisting of all except one of said plurality of antennas.

29. The machine-readable medium according to Claim 25, further comprising instructions, which when executed by a computing platform, cause said computing platform to perform operations further comprising:

switching a transmit power amplifier to be connected to any one of said plurality of antennas.

30. The machine-readable medium according to Claim 29, further comprising instructions, which when executed by a computing platform, cause said computing platform to perform operations further comprising:

adjusting a data rate of a signal transmitted using said transmit power amplifier to compensate for a lack of diversity at a remote receiver.

31. A method, comprising:

adjusting a data rate of a signal transmitted by a first transceiver employing diversity combining to compensate for a lack of use of diversity combining at a second transceiver.

32. The method according to Claim 31, wherein said adjusting comprises:

determining a signal-to-noise ratio to support communication at a predetermined error rate; and

using said signal-to-noise ratio to determine an appropriate transmit data rate.

33. A machine-readable medium that provides instructions, which when executed by a computing platform, cause said computing platform to perform operations comprising a method of:

adjusting a data rate of a signal transmitted by a first transceiver employing diversity combining to compensate for a lack of use of diversity combining at a second transceiver.

34. The machine-readable medium according to Claim 33, wherein said adjusting comprises:

determining a signal-to-noise ratio to support communication at a predetermined error rate; and

using said signal-to-noise ratio to determine an appropriate transmit data rate.